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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,288	08/06/2001	Hubert T. McGovern	OMG/129/US	9047
2543	7590	06/29/2004	EXAMINER	
ALIX YALE & RISTAS LLP 750 MAIN STREET SUITE 1400 HARTFORD, CT 06103			SCHIFFMAN, JORI	
			ART UNIT	PAPER NUMBER
			3677	

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,288

Applicant(s)

MCGOVERN ET AL.

Examiner

Jori R. Schiffman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-8, 11, 23-32, 45-48, 50-55, 57-64, 66, 67, 94-97, 100, 106-110, 113 and 119 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Continuation of Disposition of Claims: Claims pending in the application are 6-8, 11, 23-32, 45-48, 50-55, 57-64, 66, 67, 94-97, 100, 106-110, 113 and 119.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Rodenhouse.

The Rodenhouse Grip-Lok screw discloses a screw for securing wood products comprised of a shaft and a head, wherein the head is provided with a top surface having an opening to receive a tool, wherein the shaft is provided with a substantially cylindrical threaded upper region located proximate the head and a substantially cylindrical threaded lower region located near a distal end of the screw, wherein the thread pattern of the lower region is symmetrical, according to the Figure, the distal end having a tip, and the number of threads per unit length in the upper region exceeding the number of threads per unit length in the lower region, the shaft having a cross-sectional area along the cylindrical upper region greater than the cross-sectional area of the shaft along the cylindrical lower region.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 7, 11, 45, 47, 48, 51, 52, 54, 55, 58-61, 63, 64, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodenhouse in view of Takasaki (US 6000892).

Regarding claims 6, 45, 52, 59, and 60, the Rodenhouse Grip-Lok screw discloses the claimed screw as above except for the bottom surface of the head being provided with a v-shaped undercut having a conical surface that connects with the lip with a conical underside of the head, a crown that extends around the perimeter of the head and extends beyond the lower surface of the head thereby defining an open volume between the lower edge of the crown, and the shaft of the screw and forming a recessed region between the lower edge of the crown and the shaft of the screw. Takasaki teaches the bottom surface of the head 2 having a v-shaped undercut 7, the undercut having a conical surface that connects the lip with a conical side of the head, a crown that extends around the perimeter of the head and extends beyond the lower surface of the head thereby defining an open volume between the lower edge of the crown and the shaft of the screw and forming a recessed region between the lower edge of the crown and the shaft of the screw. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to include the undercut features of the head on the Grip-Lok screw as disclosed in Takasaki in order to suppress any bulging on the surface, keeping the surface smooth where the screw has been inserted.

Regarding claims 7 and 61, modified Rodenhouse discloses the conical surface slanting away from the lip toward the axis of the shaft at an angle of approximately 45 degrees.

As to claims 11, 51, 58, and 67, modified Rodenhouse discloses the claimed screw except for the distal end having a gimlet tip with an included angle from about 20 to about 30 degrees. Takasaki teaches a screw with a gimlet tip with an included angle α from about 20 to about 30 degrees. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to replace the drill tip of Rodenhouse with the gimlet tip as disclosed in Takasaki for a smoother penetration into the substrate so it is less likely to bulge (col. 2, l. 42-47).

Referring to claims 47, 54, and 63, modified Rodenhouse discloses the head being provided with a top surface having a square opening.

In regards to claims 48, 55, and 64, modified Rodenhouse discloses the thread pattern of the lower region being symmetrical.

5. Claims 23, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodenhouse in view of Hsing (US 6045312).

Regarding claim 23, Rodenhouse discloses the claimed screw as above except for there being at least twice as many threads per unit length in the upper region than in the lower region. Hsing teaches a screw having at least twice as many threads per unit length in the upper region than in the lower region. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to include at least twice as many threads in the upper

region of the Rodenhouse screw as disclosed in Hsing so less torque is required to install the screw (col. 4, l. 55-56).

As to claim 29, modified Rodenhouse discloses the head of the screw being provided with a top surface having a square opening.

Referring to claim 30, modified Rodenhouse discloses the thread pattern of the lower region being symmetrical.

6. Claims 46, 53, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodenhouse in view of Takasaki (US 6000892) as applied to claims 45, 52, and 59 above, and further in view of Hsing (US 6045312).

Regarding the claims, modified Rodenhouse discloses the claimed screw as above except for there being at least twice as many threads per unit length in the upper region than in the lower region. Hsing teaches a screw having at least twice as many threads per unit length in the upper region than in the lower region. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to include at least twice as many threads in the upper region of the Rodenhouse screw as disclosed in Hsing so less torque is required to install the screw (col. 4, l. 55-56).

7. Claims 24-28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodenhouse in view of Hsing (US 6045312) as applied to claim 23 above, and further in view of Takasaki (US 6000892).

As to claims 24-28, modified Rodenhouse discloses the claimed screw as above except for the bottom surface of the head being provided with a v-shaped undercut having a conical surface that connects with the lip with a conical

underside of the head, a crown that extends around the perimeter of the head and extends beyond the lower surface of the head thereby defining an open volume between the lower edge of the crown, and the shaft of the screw and forming a recessed region between the lower edge of the crown and the shaft of the screw. Takasaki teaches the bottom surface of the head 2 having a v-shaped undercut 7, the undercut having a conical surface that connects the lip with a conical side of the head, a crown that extends around the perimeter of the head and extends beyond the lower surface of the head thereby defining an open volume between the lower edge of the crown and the shaft of the screw and forming a recessed region between the lower edge of the crown and the shaft of the screw. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to include the undercut features of the head on modified Rodenhouse as disclosed in Takasaki in order to suppress any bulging on the surface, keeping the surface smooth where the screw has been inserted. As to claim 28, once the combination is made, modified Rodenhouse discloses the conical surface slanting away from the lip toward the axis of the shaft at an angle of approximately 45 degrees.

Referring to claim 32, modified Rodenhouse discloses the claimed screw except for the distal end having a gimlet tip with an included angle from about 20 to about 30 degrees. Takasaki teaches a screw with a gimlet tip with an included angle α from about 20 to about 30 degrees. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to replace the

drill tip of Rodenhouse with the gimlet tip as disclosed in Takasaki for a smoother penetration into the substrate so it is less likely to bulge (col. 2, l. 42-47).

8. Claims 50, 57, and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodenhouse in view of Takasaki (US 6000892) as applied to claims 45, 52, and 59 above, and further in view of De Caro (US 4959938).

Modified Rodenhouse fails to disclose the upper region having an inverted buttress thread configuration. De Caro teaches a screw having an upper region with an inverted buttress configuration to secure the screw into the surface. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to provide modified Rodenhouse's screw with a buttress thread in the upper region as disclosed in De Caro to better secure the screw into the surface so it is less likely to rotate, and therefore less likely to loosen.

9. Claims 31, 94, 100, and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodenhouse in view of Hsing (US 6045312) as applied to claim 23 above, and further in view of De Caro (US 4959938).

Referring to claims 31 and 94, modified Rodenhouse fails to disclose the upper region having an inverted buttress thread configuration. De Caro teaches a screw having an upper region with an inverted buttress configuration to secure the screw into the surface. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to provide modified Rodenhouse's screw with a buttress thread in the upper region as disclosed in De Caro to better secure the screw into the surface so it is less likely to rotate, and therefore less likely to loosen.

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As to claim 100, modified Rodenhouse discloses the head of the screw being provided with a top surface having a square opening.

Referring to claim 106, modified Rodenhouse discloses the thread pattern of the lower region being symmetrical.

10. Claims 95-97, 107-110, 113, and 119 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodenhouse in view of Hsing (US 6045312) and De Caro (US 4959938), as applied to claim 94 above, and in further view of Takasaki (US 6000892).

As to claims 95-97, modified Rodenhouse discloses the claimed screw as above except for the bottom surface of the head being provided with a v-shaped undercut having a conical surface that connects with the lip with a conical underside of the head, a crown that extends around the perimeter of the head and extends beyond the lower surface of the head thereby defining an open volume between the lower edge of the crown, and the shaft of the screw and forming a recessed region between the lower edge of the crown and the shaft of the screw. Takasaki teaches the bottom surface of the head 2 having a v-shaped undercut 7, the undercut having a conical surface that connects the lip with a conical side of the head, a crown that extends around the perimeter of the head and extends beyond the lower surface of the head thereby defining an open volume between the lower edge of the crown and the shaft of the screw and forming a recessed region between the lower edge of the crown and the shaft of the screw. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to include the undercut features of the head on modified Rodenhouse as

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disclosed in Takasaki in order to suppress any bulging on the surface, keeping the surface smooth where the screw has been inserted.

Referring to claims 107-110, 113, and 119, modified Rodenhouse discloses the claimed screw except for the distal end having a gimlet tip with an included angle from about 20 to about 30 degrees. Takasaki teaches a screw with a gimlet tip with an included angle α from about 20 to about 30 degrees. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to replace the drill tip of Rodenhouse with the gimlet tip as disclosed in Takasaki for a smoother penetration into the substrate so it is less likely to bulge (col. 2, l. 42-47).

Response to Arguments

11. Applicant argues that the Rodenhouse screw does not have a symmetrical thread pattern. In response, the Examiner would like to point out that the Figure shows the lower region of the threads on the Rodenhouse screw being symmetrical, as required in claim 8, since the top flank of the thread is symmetrical to the bottom flank of the thread. The rejection is deemed proper and is therefore maintained.

12. Applicant argues that the De Caro reference is non-analogous art. The Examiner respectfully disagrees because the Rodenhouse screw is protected under the De Caro patent number 4,959,938 and therefore must be analogous art; see IDS submitted by applicant on February 23, 2004. The rejection is therefore deemed proper and is maintained.

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13. Applicant argues that the principle operation of the Rodenhouse screw would be changed by the proposed combination, and there is no motivation to combine the Rodenhouse screw with the undercut feature of the head in the Takasaki reference. In response, the Examiner disagrees because the Rodenhouse screw does in fact have a head, and would still include the #2 square drive socket for quick release of the drive bit. Therefore the principle operation would remain the same. Also, the addition of the features taught by Takasaki would suppress any bulging on the surface, keeping the surface smooth where the screw has been inserted, as discussed above. The rejection is deemed proper and is therefore maintained.

14. Applicant argues that the combination of the Rodenhouse screw with the Hsing reference is improper because the reference has not been taken in its entirety. In response, the Examiner disagrees because although Hsing's screw can be driven into metal, the advantages of the structure of the screw would be the same as the advantages of the structure of a screw that was drilled into wood. Therefore a skilled artisan would still look to Hsing when modifying Rodenhouse. The rejection is proper and is therefore maintained.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

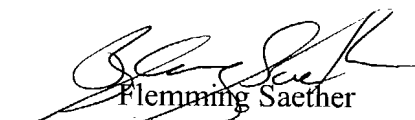
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jori R. Schiffman whose telephone number is 703-305-4805. The examiner can normally be reached on M-Th, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 703-306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jori R. Schiffman
Examiner
Art Unit 3677

JS


Flemming Saether
Primary Examiner